

### REMARKS

Below, the applicant's comments are preceded by related remarks of the examiner set forth in small bold type.

1. **Claim 88 objected to under 37 CFR 1.75 as being a substantial duplicate of claim 87. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).**

Claim 88 has been cancelled.

3. **Claim 84 provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 39 of copending Application No. 10/786248. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter of claim 84 is encompassed by claim 39. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.**

Claim 39 was cancelled from co-pending Application No. 10/786,248 by the Preliminary Amendment filed on February 25, 2004. Accordingly, Applicant respectfully submits that there is no such double patenting with respect to co-pending application No. 10/786,248. If the examiner identifies an obviousness-type doubling patenting issue with another claim, Applicant invites the examiner to contact the undersigned attorney at 617-956-5955.

4. **Claim 62 objected to because of the following informalities: There is an antecedent problem with "reference ground circuit." The examiner is certain the applicant is referring to ground circuit in claim 59, line 2. Appropriate correction is required.**

Claim 62 has been amended.

5. **Claim 79 objected to because of the following informalities: There is an antecedent problem with "the shield." The examiner is certain the applicant is referring to "an electrically conductive member" in line 8. Also in this claim there is an antecedent problem with "the circuit card" in the preamble. Appropriate correction is required.**

Claim 79 has been amended to delete reference to the shield.

7. **Claims 76, 78 and 85-89 are rejected under 35 U. S. C. 102(b) as being**

clearly anticipated by Borkar et al.

**Borkar discloses an intercoupling component (title) for receiving an array of contacts within a digital or analog transmission system having an electrical ground circuit (pin 612) and a chassis ground circuit, the intercoupling component comprising: an array of electrically conductive contacts (e. g. 606) disposed in a substrate (604) formed of electrically insulative material (col. 7 lines 52-58); and an electrically conductive frame (e. g. 710,750 or 900) disposed around the array of electrically conductive contacts (fig. 7B), wherein the frame is configured to electrically connect with the chassis ground circuit (claim 7).**

**Regarding claim 78, Borkar discloses that the array of contacts are configured to transmit differential signals (fig. 8 cpnr sys).**

Applicant respectfully disagrees.

With respect to amended claim 76, it requires, among other things, “an electrically conductive frame ... configured to electrically connect with a ground circuit separate from an electrical ground circuit of the digital or analog transmission system.” (Emphasis added).

Borkar does not disclose or suggest this limitation.

Borkar discloses an apparatus for mounting a Very Large Scale Integration (VLSI) chip as a microprocessor on a back plane of a computer chassis. Borkar discloses using a metal mounting bracket (e.g., 710 shown in FIG. 7A) to mount a VLSI chip to a computer chassis. In the Borkar system, however, the computer chassis functions as the electrical ground circuit of the system. For example, in Borkar's “Summary of the Invention” section, it states that the system “is configured to provide a current supply connection for delivering a high level of current to the microprocessor from a current source through the computer chassis.” (See, col. 5, ll. 52-54). Similarly, throughout the Detailed Description, Borkar repeatedly refers to the computer chassis as carrying the ground current for the VLSI's power supply. (See, e.g., Borkar at col. 7, ll. 18-19, col. 8, ll. 20-23, 37-43, col. 9, ll. 46-50, 60-61, col. 10, ll. 11-12, 25-31, 46-48.) Thus, the ground circuit to which the mounting bracket (e.g., 710, 750, or 900) is attached in Borkar is the electrical ground circuit of the circuit and not another ground circuit (e.g., a ground to earth circuit) as required by independent claim 76. Accordingly, Applicant respectfully submits that claim 76, as well as its dependents, are patentable over the cited art.

With respect to amended independent claim 85, it requires “molding a frame of electrically conductive material around the perimeter of [a] substrate”. Borkar does not disclose

or suggest this limitation. Even if one were to consider the mounting bracket (e.g. 710) disclosed in Borkar a frame, it clearly is not molded round the perimeter of a substrate. For example, FIG. 7A of Borkar shows the mounting bracket as a separately formed part that is attached to the VLSI assembly with four screws. There is nothing in Borkar that would suggest molding a frame of electrically conductive material around the perimeter of a substrate. Accordingly, Applicant respectfully submits that amended independent claim 85 and its dependents are patentable over the art of record.

**8. Claim 84 rejected under 35 U. S. C. 102(b) as being clearly anticipated by Borkar et al.**

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Amended independent claim 84 includes the identical limitation described above with respect to claim 76, and, therefore, is patentable over Borkar for at least the same reasons.

**11. Claims 59-60 and, 62-63 rejected under 35 U. S. C. 103(a) as being unpatentable over Wilhelm in view of Bates et al.**

Wilhelm discloses an intercoupling component (title) for receiving an array of contacts within a digital or analog transmission system having a chassis ground circuit (claim 3), the intercoupling component comprising: a substrate (10) formed of electrically insulative material (fig. 2) and having an upper surface (fig. 1), the substrate including a plurality of holes (14) disposed on its upper surface and arranged in a predetermined footprint corresponding to the array of a contacts; and a plurality of electrically conductive signal contacts (30) configured to transmit a digital or analog communication signal, each signal contact disposed within a hole on the upper surface of the substrate (fig. 2) forming an array of signal contacts, wherein some or all of the electrically conductive signal contacts are surrounded by an electrically conductive member (34) configured to electrically connect to the chassis ground circuit (claim 3).

Wilhelm does not specifically state that there is an electrical ground circuit. Bates discloses an electrical ground circuit (42,46) in an intercoupling component. At the time the invention was made it would have been obvious to one of ordinary skill in the art to include an electrical ground circuit in the device of Wilhelm as taught by Bates et al. The motivation for this would be to eliminate any stray noise at the point where the contacts 30 leave the chassis; figure 2. A grounding circuit is almost mandatory a given in any connectors with layers and contacts.

Independent claim 59 has been amended to indicate that "the electrically conductive member compris[es] a shield at least partially disposed within the substrate." This incorporates

the limitation that was the basis of claim 61, previously allowed. Claim 61 has been cancelled. Applicant respectfully submits that claim 59, along with its dependents, are patentable over the cited art.

**12. Claims 66-69 rejected under 35 U. S. C. 103(a) as being unpatentable over Ward et al, in view of Borkar et al.**

Ward discloses an intercoupling component (title) for receiving an array of contacts within a digital or analog transmission system having a chassis ground circuit (20 or 50), the intercoupling component comprising: an array of electrically conductive contacts (14) disposed in a substrate (12 and/or 32) formed of electrically insulative material; and an electrically conductive shield (e. g. 42) at least partially disposed within the array of electrically conductive contacts (fig. 1), wherein the shield is configured to electrically connect with the chassis ground circuit (fig. 3). Ward does not specifically state that there is an electrical ground circuit. Borkar discloses an electrical ground circuit (612) in an intercoupling component. At the time the invention was made it would have been obvious to one of ordinary skill in the art to include an electrical ground circuit in the device of Ward as taught by Borkar et al. The motivation for this would be to eliminate any stray noise at the point where the contacts 14 leave the chassis. A grounding circuit is almost mandatory a given in any connectors with layers and contacts.

Independent claim 66 has been amended to require that "an electrically conductive shield at least partially disposed within the substrate in the array of electrical contacts". Ward does not disclose this limitation. Rather, the shield in Ward (e.g., element 42 shown in FIG. 3) is disposed adjacent to the substrate, not at least partially within it. Borkar also does not disclose an electrically conductive member disposed within a substrate, nor does it disclose an electrically conductive member located in the array of contacts. Because neither Ward nor Borkar disclose a shield at least partially disposed within the substrate in the array of electrically conductive contacts, Applicant respectfully submit that amended independent claim 66, along with its dependents, are patentable over the art of record.

**13. Claims 79-83 rejected under 35 USC. 103(a) as being unpatentable over Ward et al, in view of Borkar et al.**

Ward discloses an apparatus for use in a digital or analog transmission system having a chassis ground circuit, the apparatus comprising; a printed circuit board (32), and an interconnection device coupled to the printed circuit board (fig. 1), the interconnection device comprising: an array of electrically conductive contacts (14) disposed in a substrate (12) formed of nonconductive

**material; and an electrically conductive member (42) at least partially disposed within the array of electrically conductive contacts (fig. 1), wherein the electrically conductive member is configured to electrically connect with the chassis ground circuit (figures 1 &3). Ward does not specifically state that there is an electrical ground circuit. Borkar discloses an electrical ground circuit (612) in an intercoupling component. At the time the invention was made it would have been obvious to one of ordinary skill in the art to include an electrical ground circuit in the device of Ward as taught by Borkar et al. The motivation for this would be to eliminate any stray noise at the point where the contacts 14 leave the chassis. A grounding circuit is almost mandatory a given in any connectors with layers and contacts.**

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Independent claim 79 has been amended to indicate that "the electrically conductive member compris[es] a shield at least partially disposed within the substrate." This incorporates the limitation that was the basis of claim 61, previously allowed. Accordingly, Applicant respectfully submits that claim 79, along with its dependents, are patentable over the cited art.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Applicant also asks that the Examiner return an initialed copy of the two Form PTO-1449 and PTO-892 mailed on July 8, 2004, and a copy of the Form PTO-1449 mailed along with this response in the Examiner's next communication with Applicant.

Enclosed is a \$350.00 check for excess claim fees. Please apply any other charges or credits to deposit account 06-1050, referencing attorney docket 02021-072003.

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Respectfully submitted,

Date: \_\_\_\_\_

1/28/05



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